



**FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-216 ISSUE 2**

CERTIFICATION TEST REPORT

FOR

POWERED WIRELESS CHARGING STAND

MODEL NO: F-00005

FCC ID: DZLF00005

IC: 1807D-F00005

REPORT NUMBER: 12356722-E1V1

ISSUE DATE: JULY 20, 2018

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	07/20/2018	Initial Issue	-

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LOGITECH INC.
EUT DESCRIPTION: POWERED WIRELESS CHARGING STAND
MODEL NUMBER: F-00005
SERIAL NUMBER: 1821LZN0NCG8
DATE TESTED: JUNE 19 – 20, 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Complies
INDUSTRY CANADA RSS-216 ISSUE 2	Complies
INDUSTRY CANADA RSS-GEN ISSUE 5	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15, RSS-GEN Issue 5 and RSS-216 Issue 2 January 2016.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
<input type="checkbox"/> Chamber A (IC:2324B-1)	<input type="checkbox"/> Chamber D (IC: 22541-1)
<input checked="" type="checkbox"/> Chamber B (IC:2324B-2)	<input type="checkbox"/> Chamber E (IC: 22541-2)
<input type="checkbox"/> Chamber C (IC:2324B-3)	<input type="checkbox"/> Chamber F (IC: 22541-3)
	<input type="checkbox"/> Chamber G (IC: 22541-4)
	<input type="checkbox"/> Chamber H (IC: 22541-5)

The above test sites and facilities are covered under FCC Test Firm Registration # 208313. Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at [NVLAP Lab Search](#).

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned}\text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamplifier Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m}\end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Radiated Disturbance, 18000 to 26000 MHz	4.45 dB
Radiated Disturbance, 26000 to 40000 MHz	5.24 dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a wireless charging stand capable to charge cell phone batteries at 7.5 watt power transfer.

5.2. MAXIMUM OUTPUT POWER

The transmitter has maximum peak radiated electric and magnetic field strength as follows:

Fundamental Frequency (kHz)	Mode	E Field (300m distance) FCC (dBuV/m)	H Field (300m distance) IC (dBuA/m)
127.7	Standby	1.81	26.28
127.7	Operating	-2.13	19.7

5.3. SOFTWARE AND FIRMWARE

The firmware version installed in the EUT during testing was 2.7.

5.4. WORST-CASE CONFIGURATION AND MODE

The EUT is a single frequency magnetic charger enclosed in a plastic case. For the entire radiated emissions test, the EUT was examining on the following configuration.

Config	Mode	Descriptions
1	Standby	EUT Alone powered by AC/DC adapter
2	Operating	EUT and smart phone powered by AC/DC adapter (Phone 7.5W)

Note that the EUT was tested as standby and operation modes.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 300 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788 D01.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

SUPPORT EQUIPMENT & PERIPHERALS LIST			
Description	Manufacturer	Model	Serial Number
Phone	Apple	iPhone 8 Plus	C39VQVJYJCM2
Phone	Apple	iPhone 8 Plus	F2LVCLV2JCLY
Phone	Apple	iPhone 8 Plus	F2LW24TAJCM3
AC Adapter	PI Electronics (H.K.) Ltd.	AD2119X20	N/A

NOTE: Cell Phones were exchanged to ensure the EUT is at the maximum power transfer during testing.

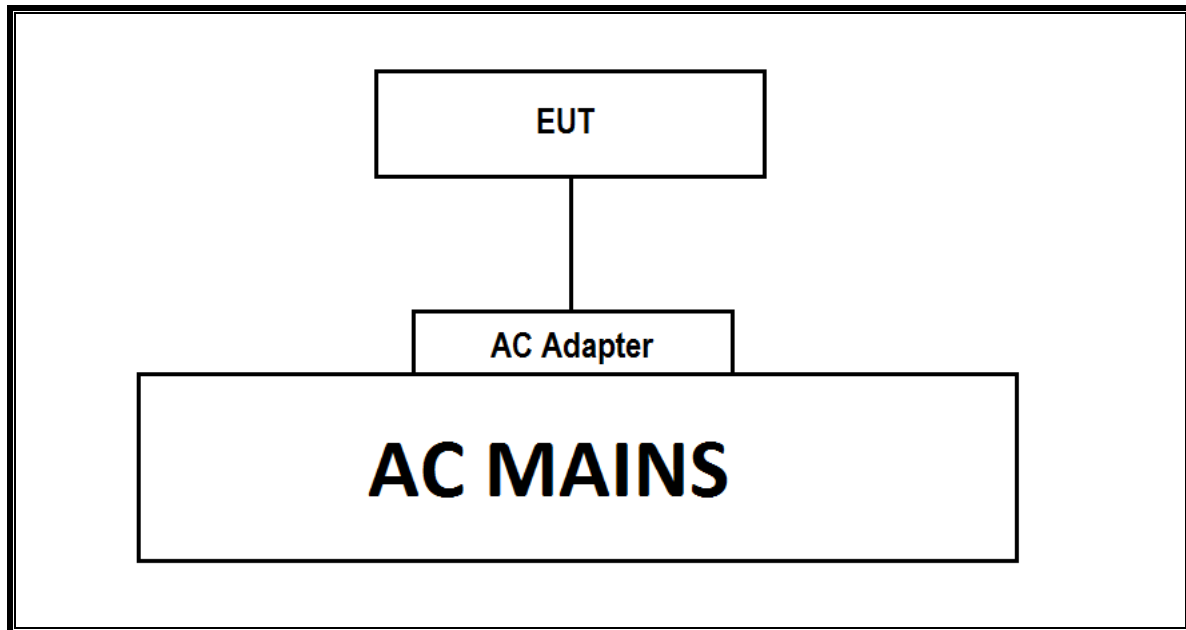
I/O CABLES

N/A

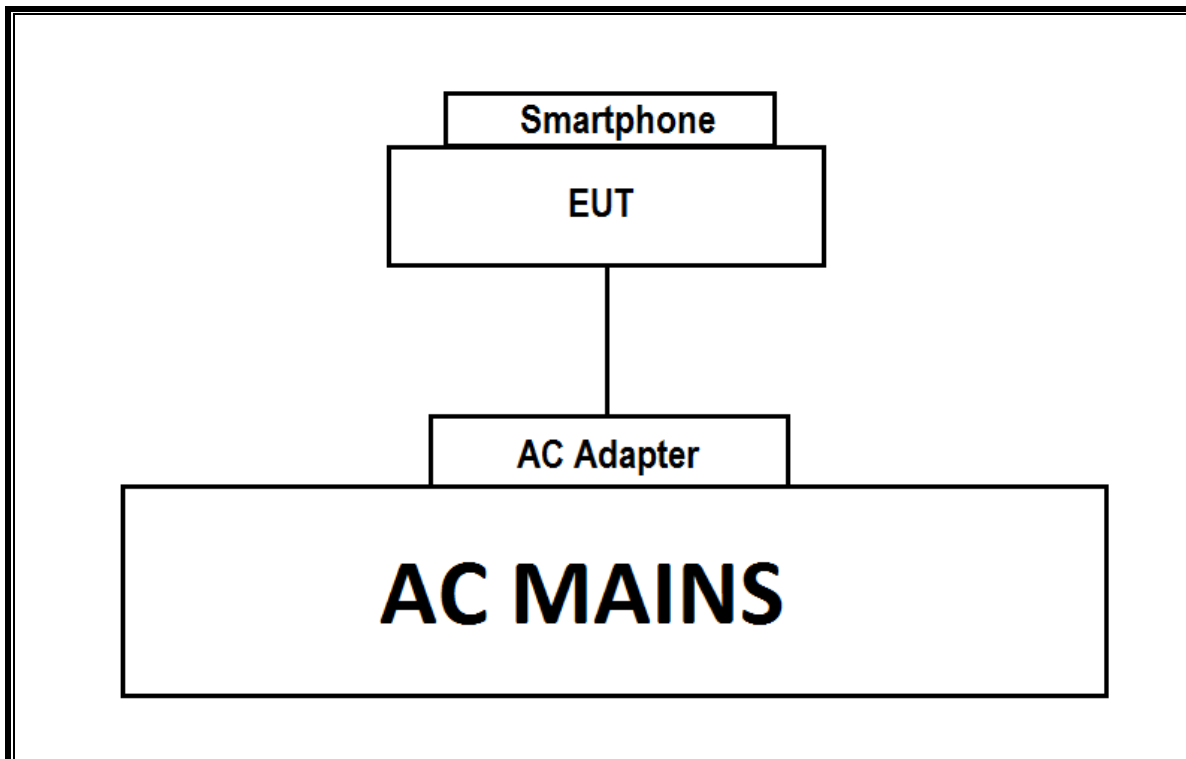
TEST SETUP

Please see the following configurations for the test setups. Both configurations indicate that the EUT is directly connected to an AC/DC adapter.

CONFIGURATION 1: STANDBY MODE



CONFIGURATION 2: OPERATING MODE WITH PHONE



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST				
Description	Manufacturer	Model	Asset	Cal Due
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB3	T899	06/15/2019
Amplifier, 10KHz to 1.3GHz, 25dB	HP	8447D	T10	02/14/2019
Antenna, Active Loop 9kHz-30MHz	Com-Power Corp.	AL-130R	T866	12/13/2018
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1454	01/08/2019
Spectrum Analyzer, PXA, 3Hz to 44GHz	Agilent (Keysight) Technologies	N9030A	T1450	02/05/2019
EMI Test Receiver	Rohde & Schwarz	ESR	T1436	01/25/2019
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2	T1310	01/31/2019
LIT-930 Transient Limiter	COM-POWER	-	T1457	03/01/2019

Test Software List			
Description	Manufacturer	Model	Version
Antenna Port Software	UL	UL EMC	Ver 7.9 Jan 24, 2018
Radiated Software	UL	UL EMC	Ver 9.5, April 26, 2016
Conducted Software	UL	UL EMC	Ver 9.5, May 26 2015

Note: * indicates automation software version used in the compliance certification testing

7. OCCUPIED BANDWIDTH

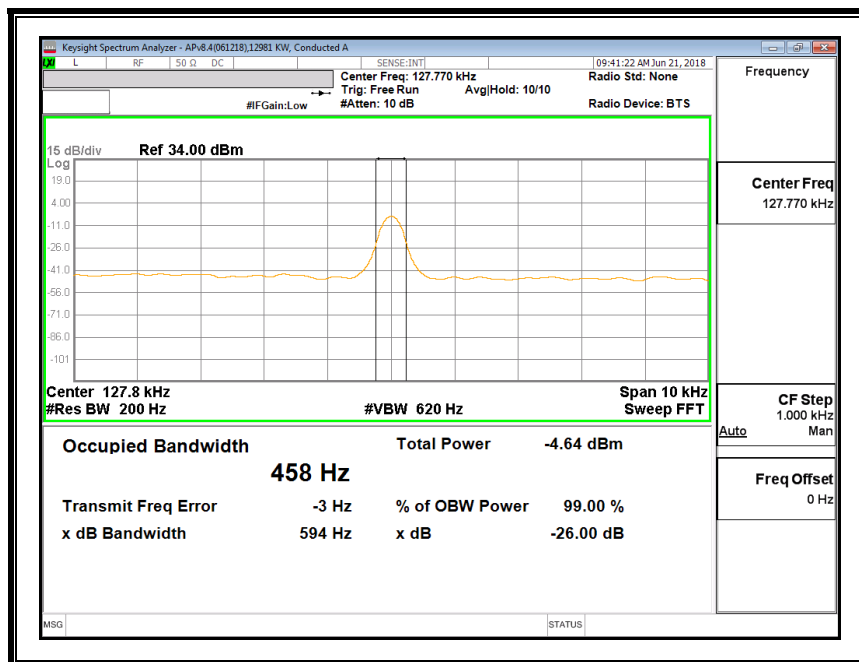
TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 200Hz. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

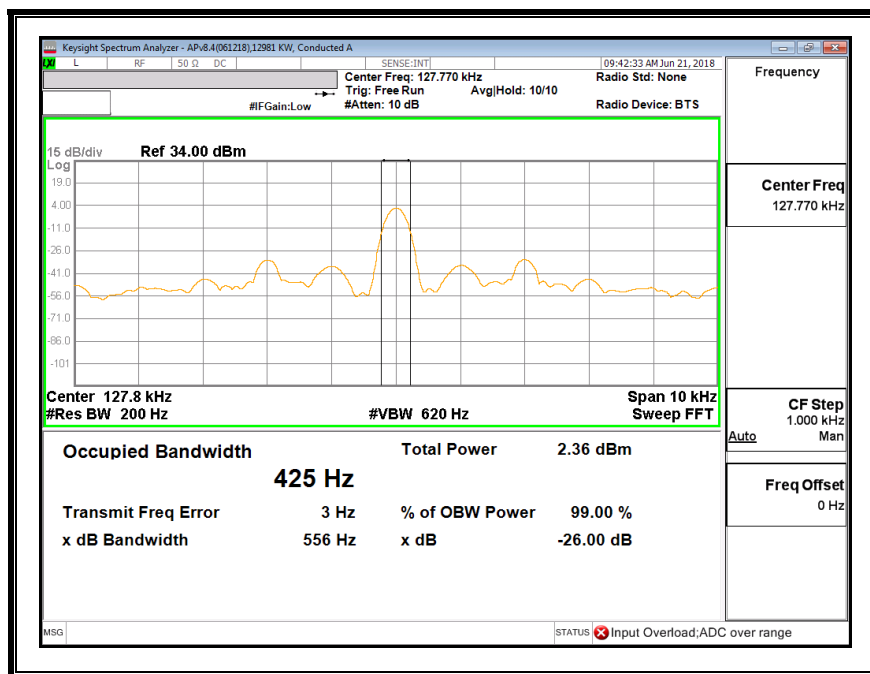
Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS

7.1.1. STANDBY CONFIGURATION CHARGER



7.1.2. OPERATING CONFIGURATION WITH PHONE



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.209 (a)

ICES-001 Section 6.2, IC RSS-216 6.2.2, and IC RSS-GEN Sections 8.9 and 8.10.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960 MHz	500	3
Note: The lower limit shall apply at the transition frequency.		

CISPR 11:04

Electromagnetic radiation disturbance limits for class B group 2 equipment measured on a test site

Frequency Range (MHz)	Magnetic Field Strength Limit Class B Group 2 @ 3m Distance (dBuA/m)
	Quasi-peak
0.009 - 0.070	69
0.070 - 0.1485	69
	Decreasing Linearly with Logarithm of Frequency to 39
0.1485 - 4.0	39
	Decreasing Linearly with Logarithm of Frequency to 3
4.0 - 30	3

The limits of this table apply to induction cooking appliances intended for commercial use and those for domestic use with a diagonal diameter of more than 1.6m.
The measurements are performed at 3m distance with a 0.6 m loop antenna as described in 4.2.1 of CISPR 16-1-4.
The antenna should be vertically installed, with the lower edge of the loop at 1m height above the floor.

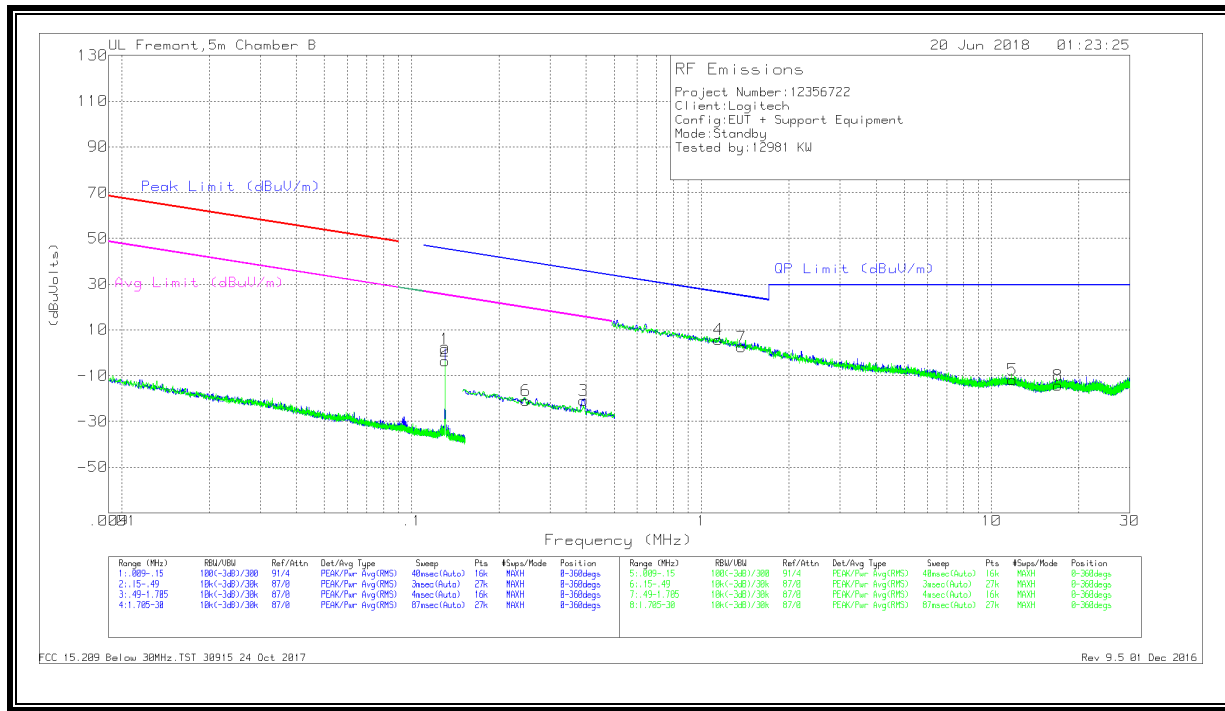
Frequency Range (MHz)	Electric Field Strength Limit Class B Group 2 @ 3m Distance (dBuV/m)	
	Quasi-peak	Average
30 – 80,872	40	35
80,872 – 81,848	60	55
81,848 – 134,786	40	35
134,786 – 136,414	60	55
136,414 – 230	40	35
230 – 1 000	47	42

RESULTS

The EUT belongs to Type 3 (Category I Radio Apparatus).

8.2. FCC TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

8.2.1. STANDBY CONFIGURATION



Trace Markers

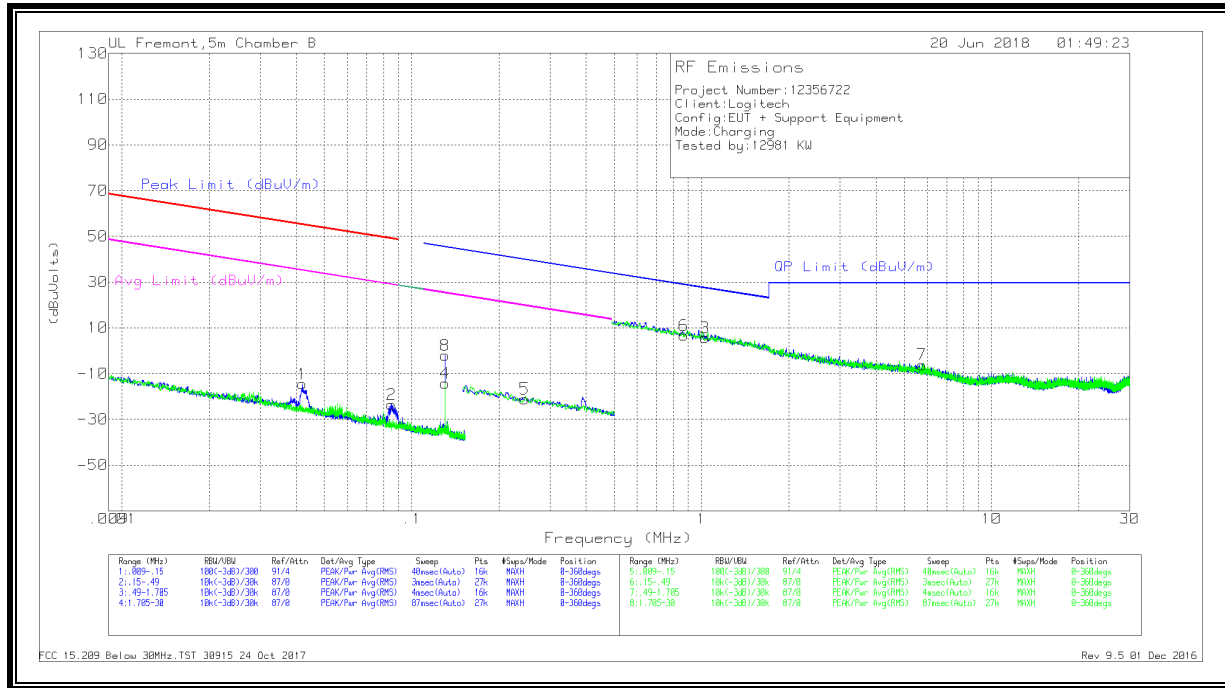
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.13029	66.41	Pk	14	1.4	-80	1.81	45.33	-43.52	25.33	-23.52	0-360
2	.13029	60.89	Pk	14	1.4	-80	-3.71	45.33	-49.04	25.33	-29.04	0-360
6	.24754	43.78	Pk	13.9	1.5	-80	-20.82	39.74	-60.56	19.74	-40.56	0-360
3	.39152	43.79	Pk	13.8	1.5	-80	-20.91	35.75	-56.66	15.75	-36.66	0-360

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	1.14269	30.02	Pk	14.3	1.5	-40	5.82	26.47	-20.65	0-360
7	1.37339	26.69	Pk	14.3	1.5	-40	2.49	24.87	-22.38	0-360
5	11.80667	11.98	Pk	14.7	1.6	-40	-11.72	29.5	-41.22	0-360
8	16.95759	9.67	Pk	14.5	1.6	-40	-14.23	29.5	-43.73	0-360

Pk - Peak detector

8.2.2. OPERATING WITH PHONE



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	04197	49.2	Pk	14.8	1.4	-80	-14.6	55.13	-69.73	35.13	-49.73	0-360
2	0852	40.74	Pk	14.3	1.4	-80	-23.56	48.98	-72.54	28.98	-52.54	0-360
4	13029	50.48	Pk	14	1.4	-80	-14.12	45.33	-59.45	25.33	-39.45	0-360
8	1303	62.47	Pk	14	1.4	-80	-2.13	45.33	-47.46	25.33	-27.46	0-360
5	24529	43.58	Pk	13.9	1.5	-80	-21.02	39.82	-60.84	19.82	-40.84	0-360

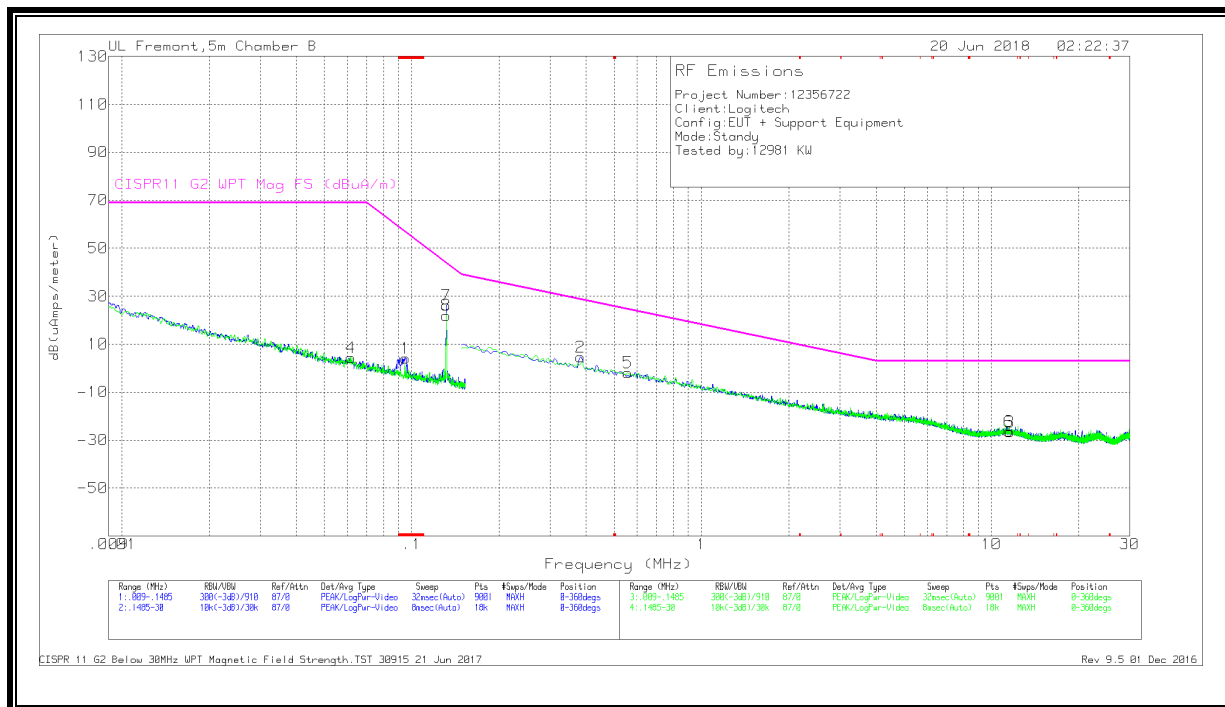
Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Dist Corr (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
6	.86776	31.22	Pk	14.1	1.5	-40	6.82	28.85	-22.03	0-360
3	1.02755	29.89	Pk	14.3	1.5	-40	5.69	27.39	-21.7	0-360
7	5.75866	17.97	Pk	14.4	1.5	-40	-6.13	29.5	-35.63	0-360

Pk - Peak detector

8.3. IC / CISPR 11 TX FUNDAMENTAL AND SPURIOUS EMISSIONS FROM 9 kHz TO 30 MHz

8.3.1. STANDBY CONFIGURATION



DATA

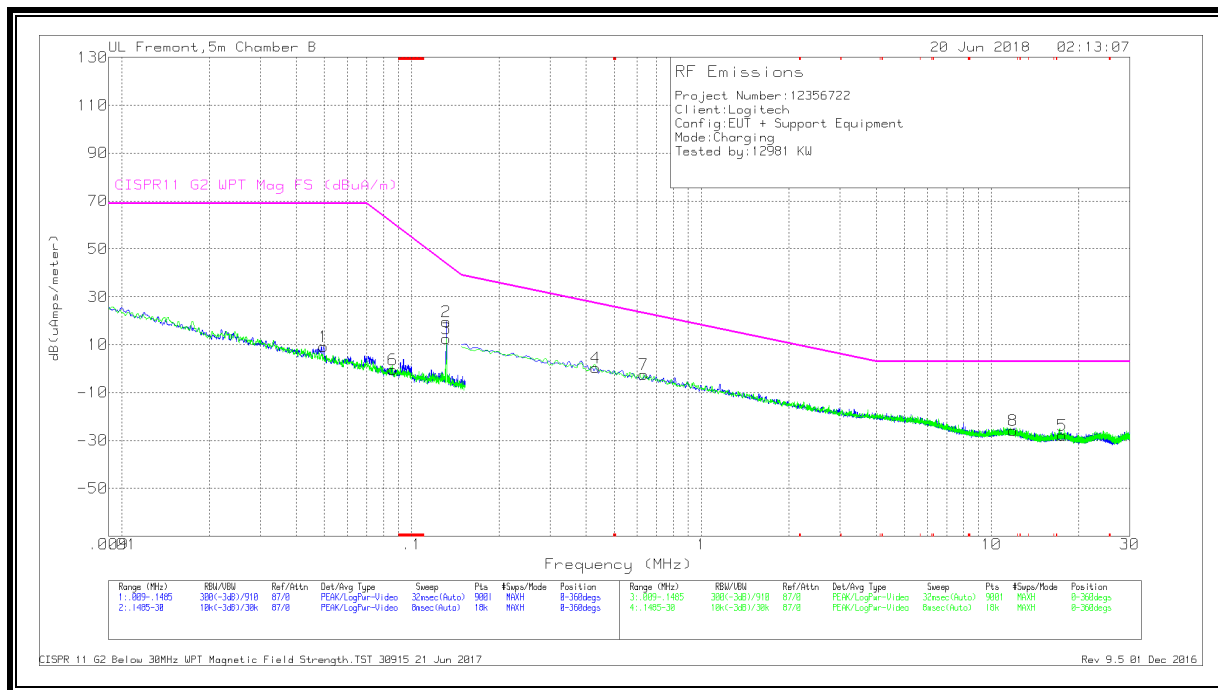
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Corrected Reading dB(uAmps/meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	*.09532	42.47	Pk	-39.8	1.4	4.07	56.68	-52.61	0-360
4	.06161	41.99	Pk	-39	1.4	4.39	69	-64.61	0-360
8	.13151	60.75	Pk	-40.1	1.4	22.05	43.85	-21.8	0-360
7	.13159	64.98	Pk	-40.1	1.4	26.28	43.82	-17.54	0-360
2	.38311	43.76	Pk	-40.6	1.5	4.66	28.64	-23.98	0-360
5	.55637	37.08	Pk	-40.4	1.5	-1.82	24.56	-26.38	0-360
6	11.47098	12.68	Pk	-40.6	1.6	-26.32	3	-29.32	0-360
3	11.59367	12.36	Pk	-40.6	1.6	-26.64	3	-29.64	0-360

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

8.3.2. OPERATING WITH PHONE



DATA

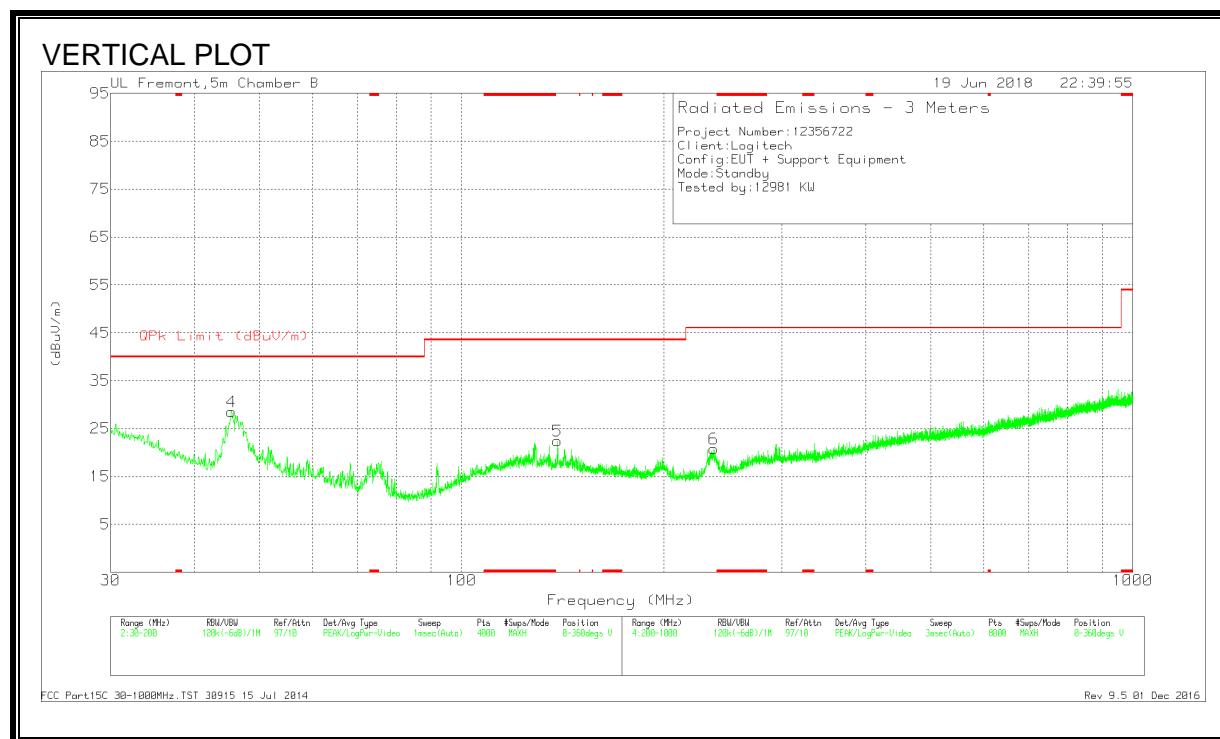
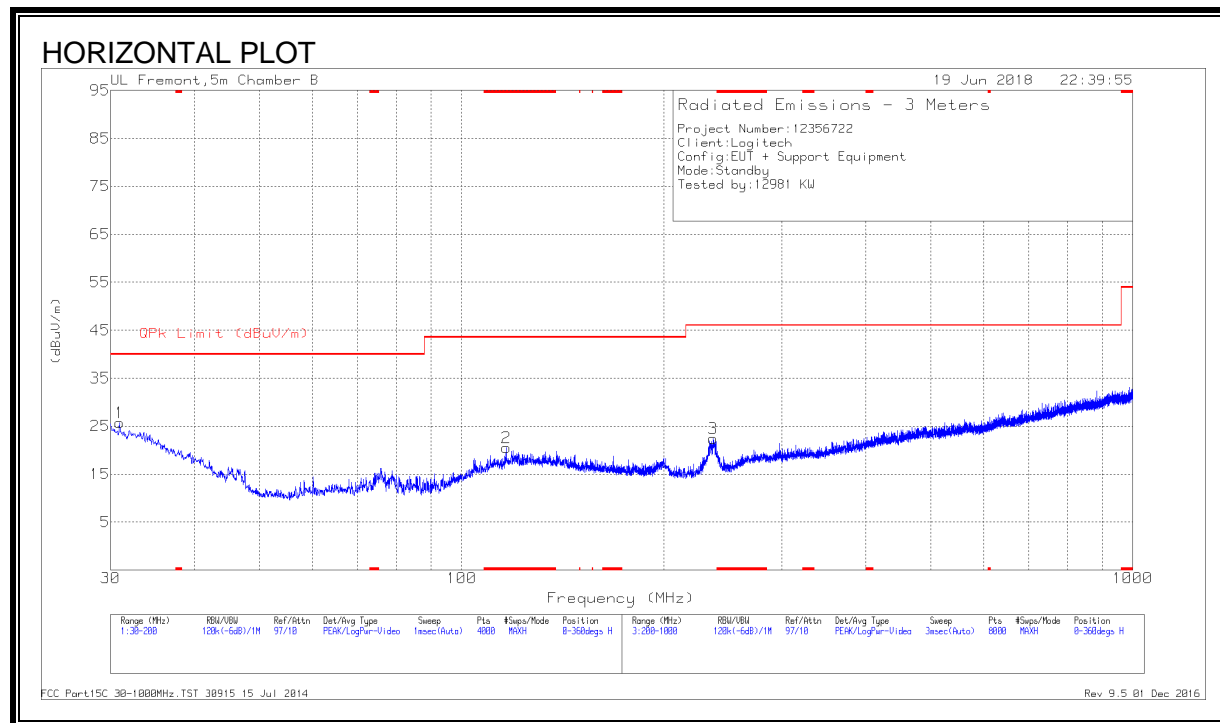
Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (dB/m)	Cbl (dB)	Corrected Reading dB(uAmps/meter)	CISPR11 G2 WPT Mag FS (dBuA/m)	Margin (dB)	Azimuth (Degs)
1	.04967	46.58	Pk	-38.8	1.4	9.18	69	-59.82	0-360
6	.08599	37.6	Pk	-39.5	1.4	-.5	60.79	-61.29	0-360
2	.13161	58.4	Pk	-40.1	1.4	19.7	43.82	-24.12	0-360
3	.13161	51.25	Pk	-40.1	1.4	12.55	43.82	-31.27	0-360
4	.43202	39.34	Pk	-40.5	1.5	.34	27.33	-26.99	0-360
7	.63181	36.37	Pk	-40.4	1.5	-2.53	23.17	-25.7	0-360
8	11.87719	13.11	Pk	-40.6	1.6	-25.89	3	-28.89	0-360
5	17.55253	11.61	Pk	-41.1	1.6	-27.89	3	-30.89	0-360

Pk - Peak detector

8.4. FCC TX SPURIOUS EMISSION 30 TO 1000 MHz

8.4.1. STANDBY CONFIGURATION



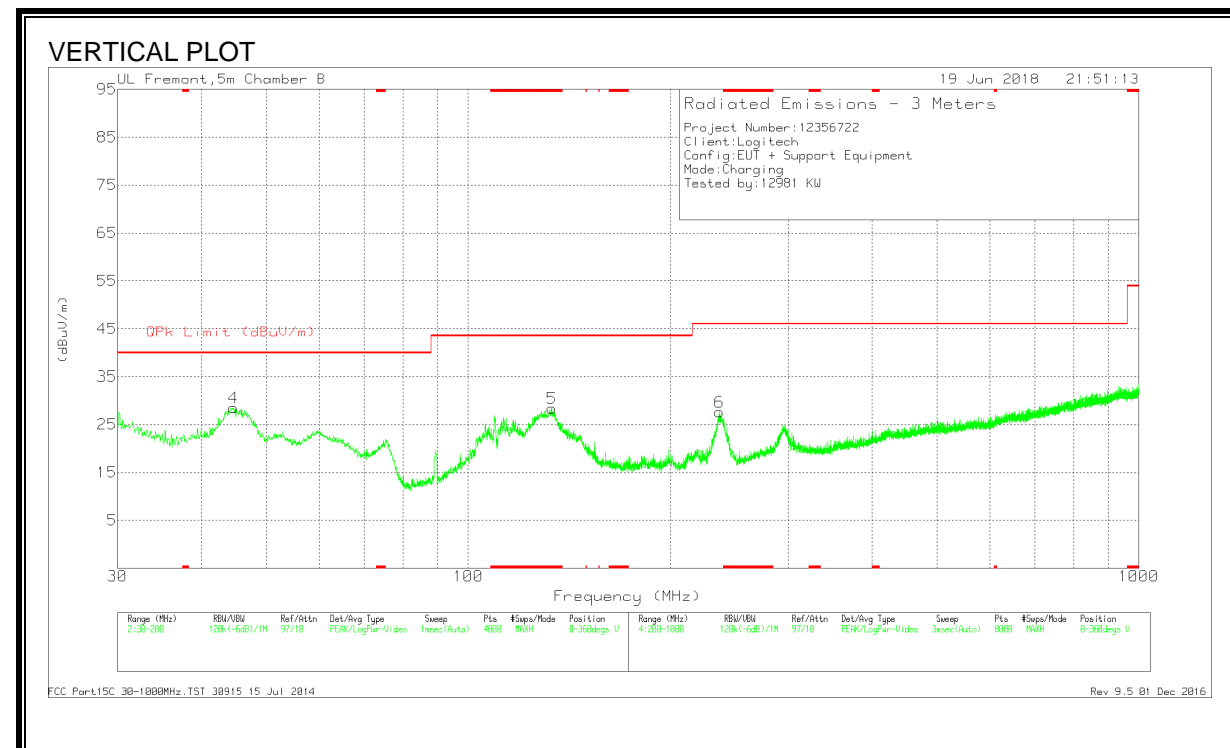
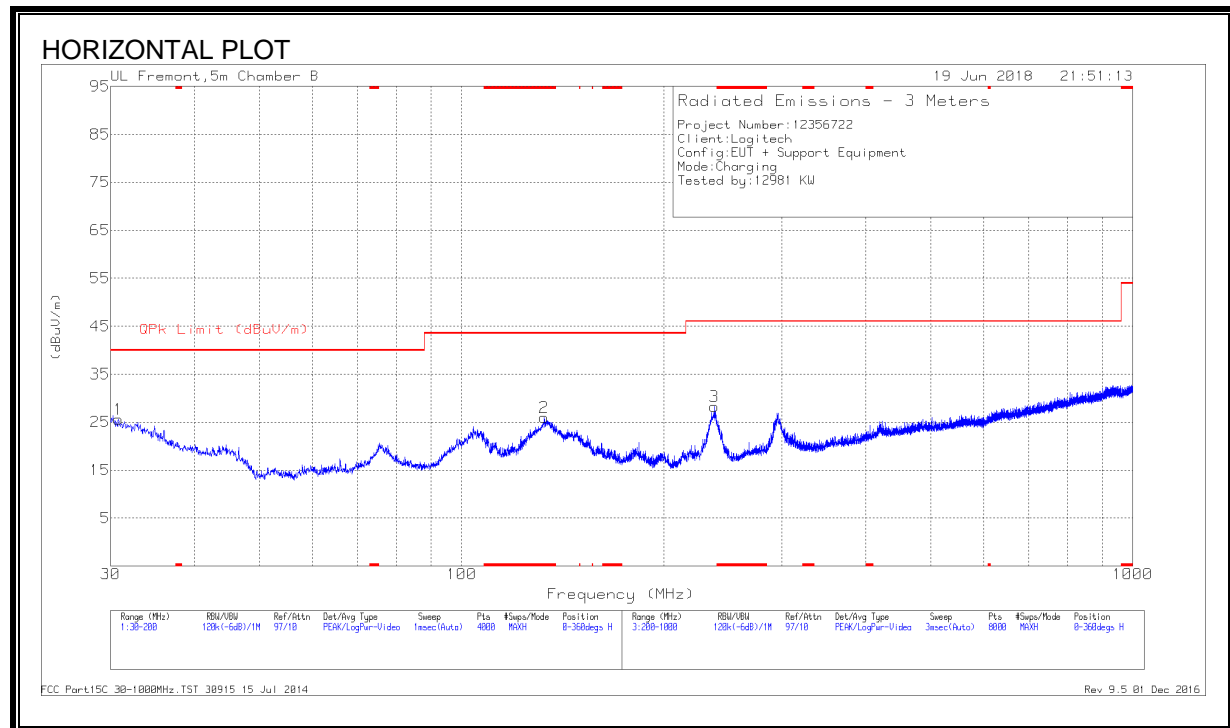
DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 116.5949	30.77	Pk	17.5	-27.8	20.47	43.52	-23.05	0-360	200	H
1	30.9352	29.71	Pk	24.8	-28.8	25.71	40	-14.29	0-360	200	H
4	45.389	28.68	Pk	14	-28.6	14.08	40	-25.92	0-360	100	V
5	138.9982	32.65	Pk	17.2	-27.4	22.45	43.52	-21.07	0-360	100	V
3	237.1048	33.55	Pk	15.3	-26.4	22.45	46.02	-23.57	0-360	100	H
6	237.4049	31.87	Pk	15.3	-26.4	20.77	46.02	-25.25	0-360	200	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

8.4.2. OPERATING WITH PHONE



DATA

Trace Markers

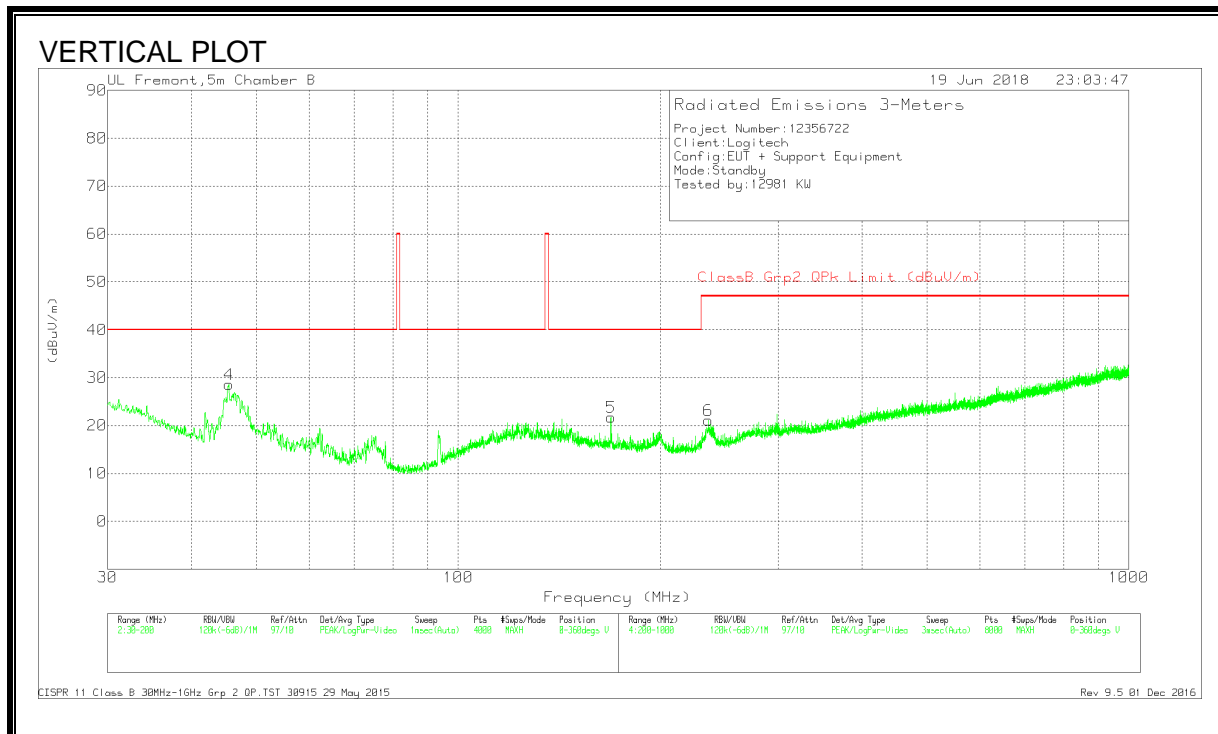
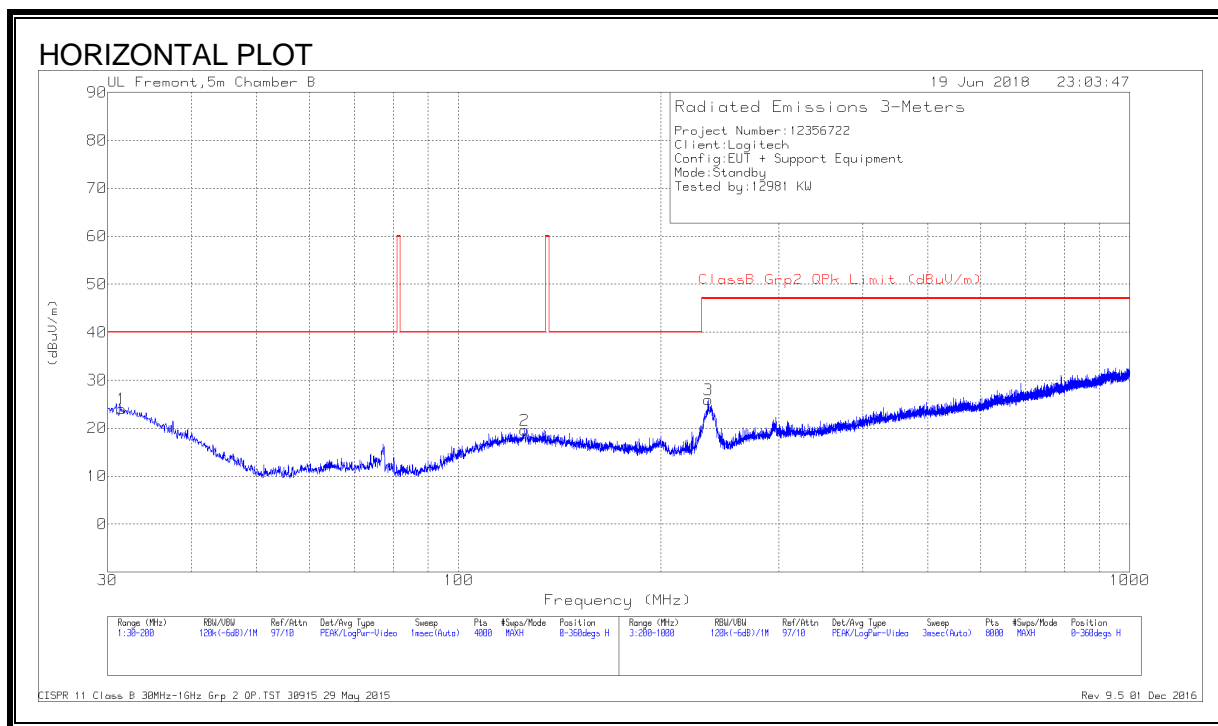
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 132.7916	35.97	Pk	17.5	-27.5	25.97	43.52	-17.55	0-360	200	H
5	* 133.1742	38.41	Pk	17.5	-27.5	28.41	43.52	-15.11	0-360	100	V
1	30.8077	29.49	Pk	24.9	-28.8	25.59	40	-14.41	0-360	100	H
4	44.6663	42.57	Pk	14.6	-28.6	28.57	40	-11.43	0-360	100	V
6	236.9048	38.74	Pk	15.3	-26.4	27.64	46.02	-18.38	0-360	100	V
3	237.9049	39.31	Pk	15.3	-26.4	28.21	46.02	-17.81	0-360	100	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

Pk - Peak detector

8.5. IC / CISPR 11 TX SPURIOUS EMISSION 30 TO 1000 MHz

8.5.1. STANDBY CONFIGURATION



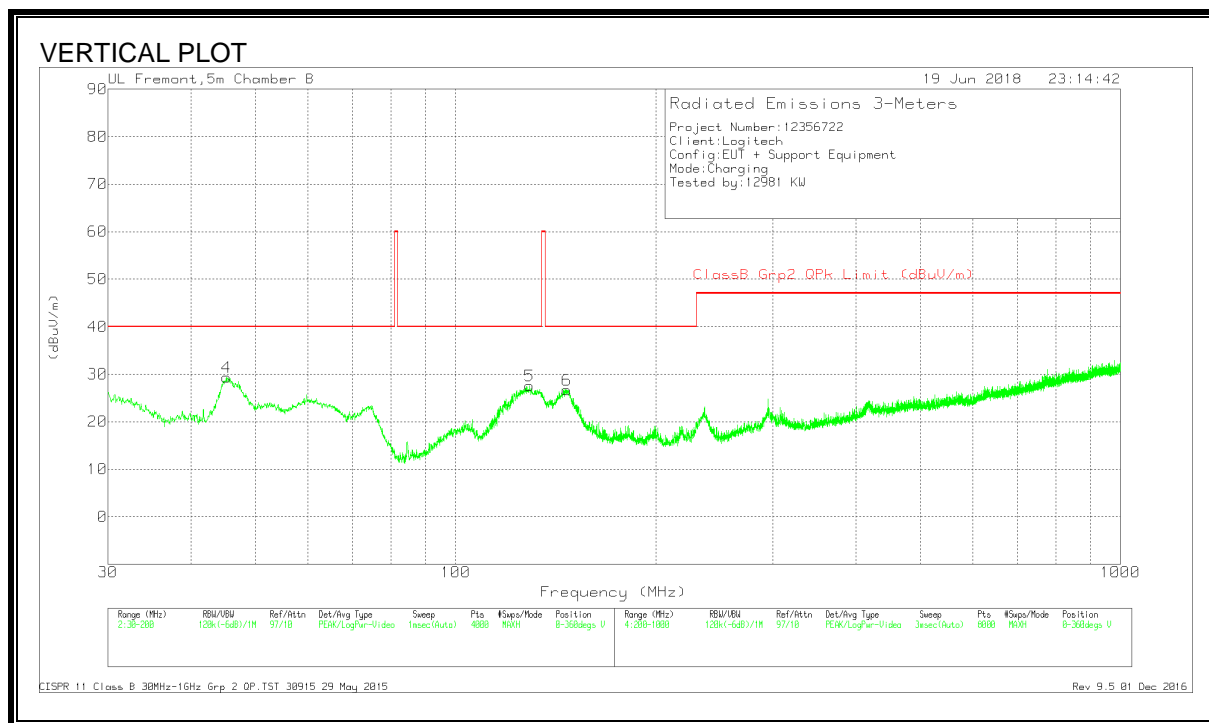
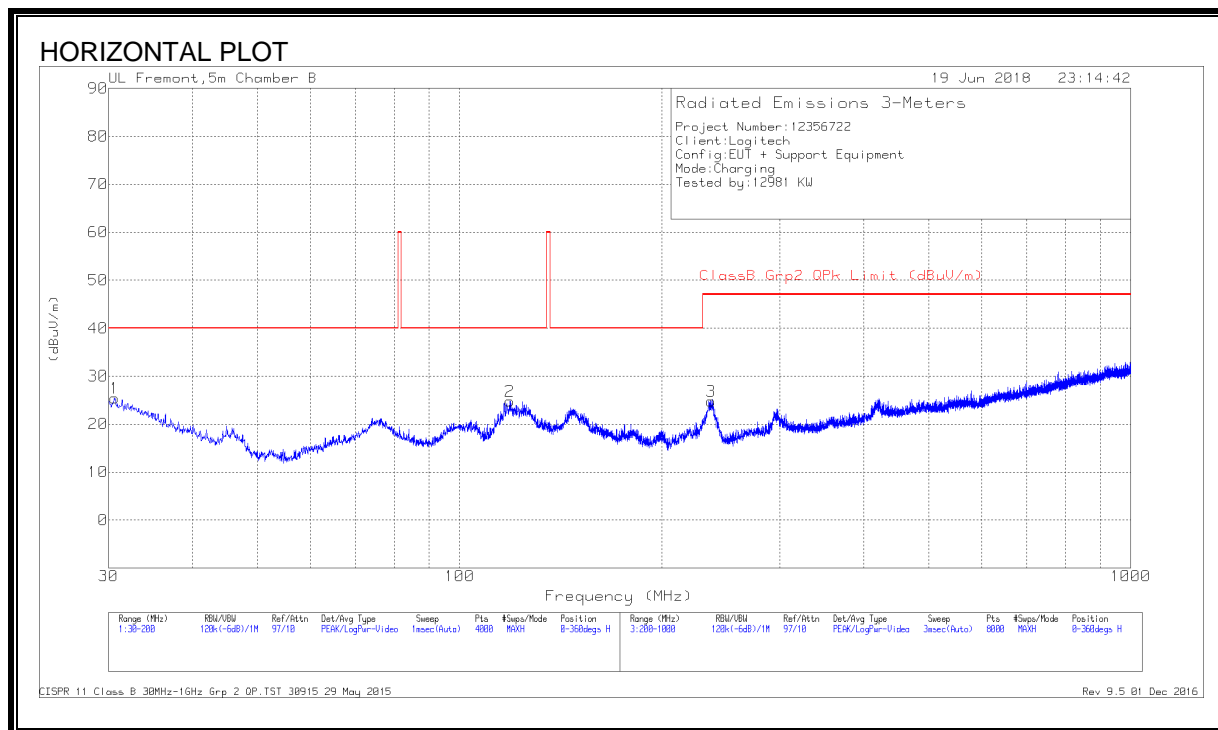
DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	31.4454	28.53	Pk	24.3	-28.8	24.03	40	-15.97	0-360	100	H
4	45.474	43.16	Pk	14	-28.6	28.56	40	-11.44	0-360	100	V
2	125.5222	29.57	Pk	17.7	-27.7	19.57	40	-20.43	0-360	100	H
5	168.8834	33.37	Pk	15.6	-27.2	21.77	40	-18.23	0-360	100	V
3	235.5046	37.2	Pk	15.2	-26.5	25.9	47	-21.1	0-360	100	H
6	236.0047	32.31	Pk	15.2	-26.4	21.11	47	-25.89	0-360	100	V

Pk - Peak detector

8.5.2. OPERATING WITH PHONE



DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T899 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	ClassB Grp2 QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	30.6377	29.2	Pk	25	-28.8	25.4	40	-14.6	0-360	200	H
4	45.2189	43.81	Pk	14.1	-28.6	29.31	40	-10.69	0-360	100	V
2	118.933	34.88	Pk	17.6	-27.7	24.78	40	-15.22	0-360	200	H
5	129.1357	37.49	Pk	17.7	-27.6	27.59	40	-12.41	0-360	100	V
6	146.9478	37.35	Pk	16.7	-27.4	26.65	40	-13.35	0-360	100	V
3	237.0048	35.85	Pk	15.3	-26.4	24.75	47	-22.25	0-360	100	H

Pk - Peak detector

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

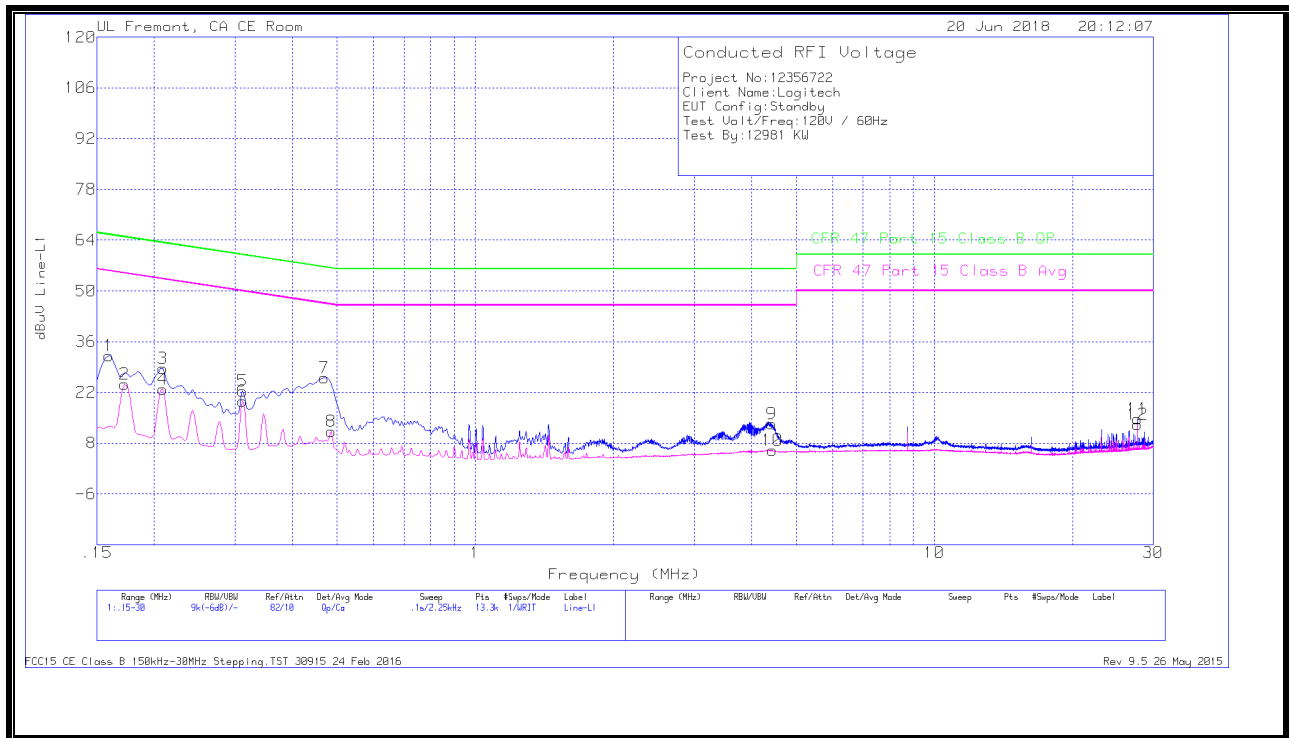
The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

STANDBY MODE

LINE 1 RESULTS



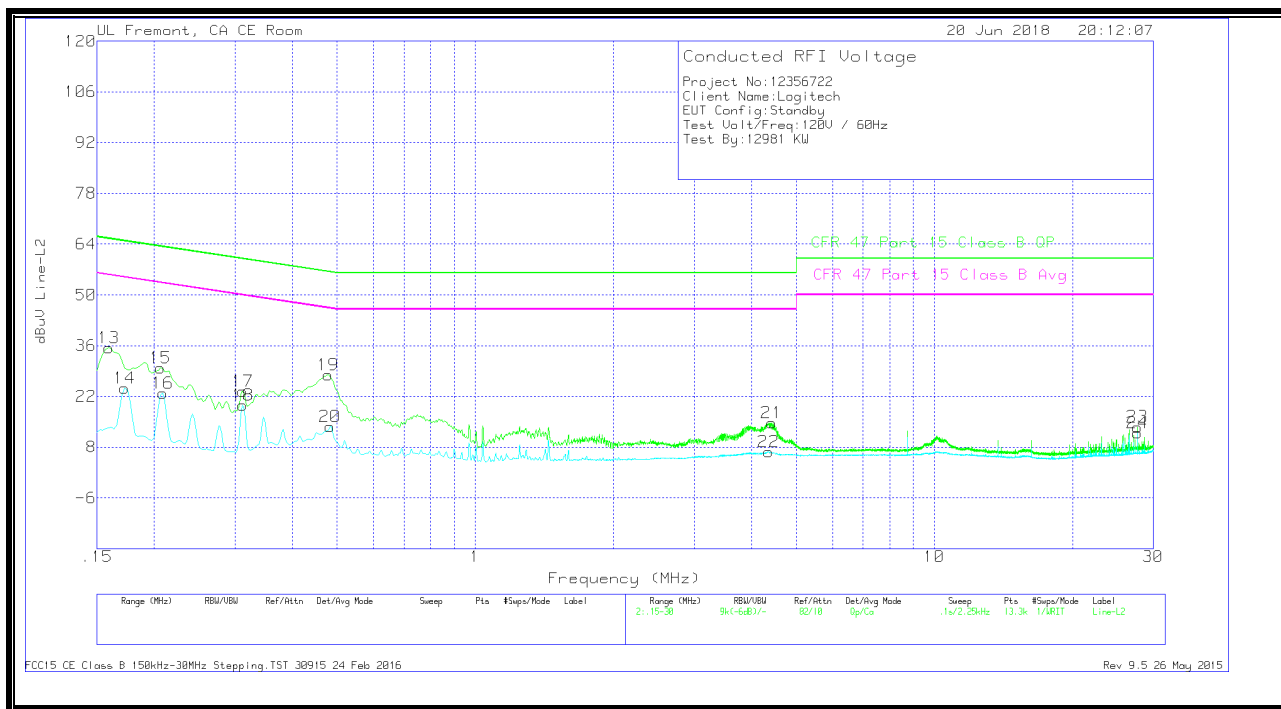
WORST EMISSIONS

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
1	.159	21.3	Qp	.7	0	10.1	32.1	65.52	-33.42	-	-
2	.1725	13.42	Ca	.7	0	10.1	24.22	-	-	54.84	-30.62
3	.2085	17.9	Qp	.6	0	10.1	28.6	63.26	-34.66	-	-
4	.2085	12.24	Ca	.6	0	10.1	22.94	-	-	53.26	-30.32
5	.312	11.92	Qp	.4	0	10.1	22.42	59.92	-37.5	-	-
6	.312	9.11	Ca	.4	0	10.1	19.61	-	-	49.92	-30.31
7	.4695	15.82	Qp	.1	0	10.1	26.02	56.52	-30.5	-	-
8	.48525	.96	Ca	.1	0	10.1	11.16	-	-	46.25	-35.09
9	4.4295	2.97	Qp	.1	.1	10.1	13.27	56	-42.73	-	-
10	4.43625	-4.35	Ca	.1	.1	10.1	5.95	-	-	46	-40.05
11	27.69225	3.85	Qp	0	.4	10.5	14.75	60	-45.25	-	-
12	27.69225	2.28	Ca	0	.4	10.5	13.18	-	-	50	-36.82

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



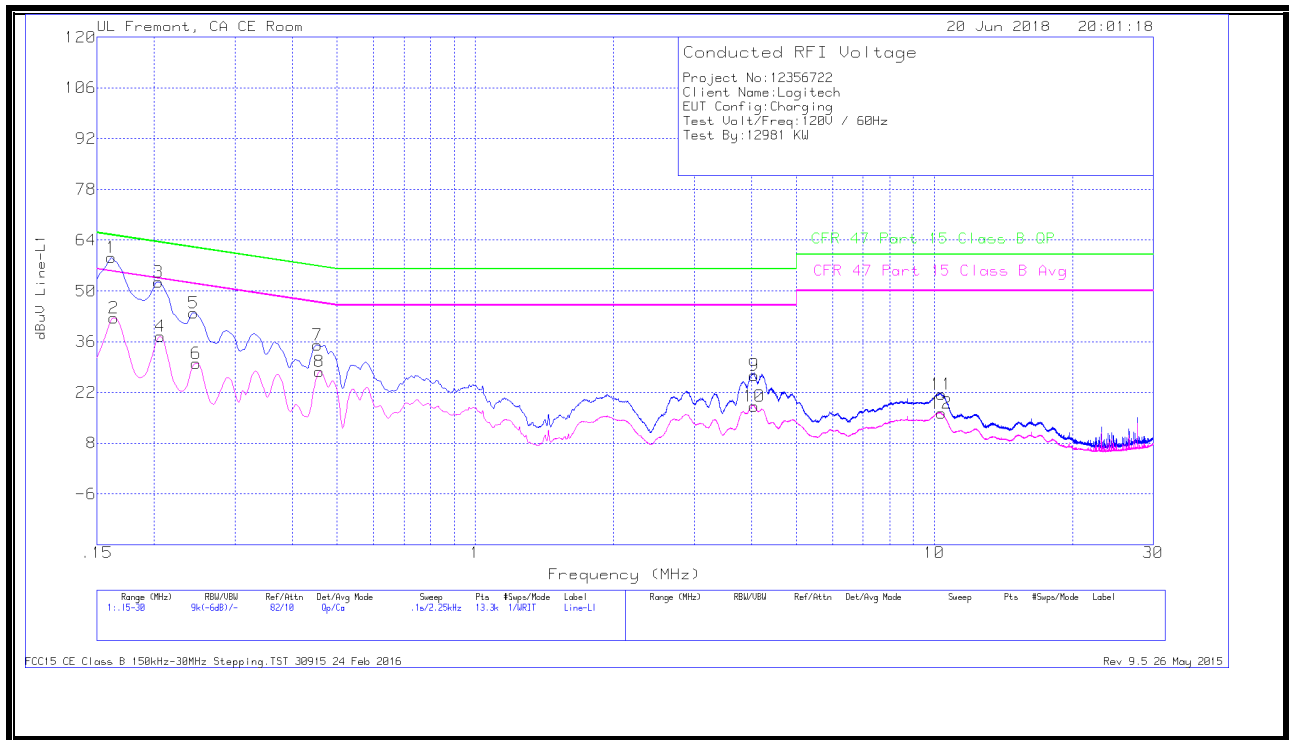
WORST EMISSIONS

Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
13	.159	25.12	Qp	.1	0	10.1	35.32	65.52	-30.2	-	-
14	.1725	14.12	Ca	.1	0	10.1	24.32	-	-	54.84	-30.52
15	.20625	19.58	Qp	.1	0	10.1	29.78	63.35	-33.57	-	-
16	.2085	12.63	Ca	.1	0	10.1	22.83	-	-	53.26	-30.43
17	.312	13.27	Qp	.1	0	10.1	23.47	59.92	-36.45	-	-
18	.312	9.36	Ca	.1	0	10.1	19.56	-	-	49.92	-30.36
19	.4785	17.78	Qp	.1	0	10.1	27.98	56.37	-28.39	-	-
20	.483	3.44	Ca	.1	0	10.1	13.64	-	-	46.29	-32.65
21	4.4295	4.52	Qp	0	.1	10.1	14.72	56	-41.28	-	-
22	4.35863	-3.44	Ca	0	.1	10.1	6.76	-	-	46	-39.24
23	27.69225	2.68	Qp	0	.4	10.5	13.58	60	-46.42	-	-
24	27.69225	1.11	Ca	0	.4	10.5	12.01	-	-	50	-37.99

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 1 RESULTS



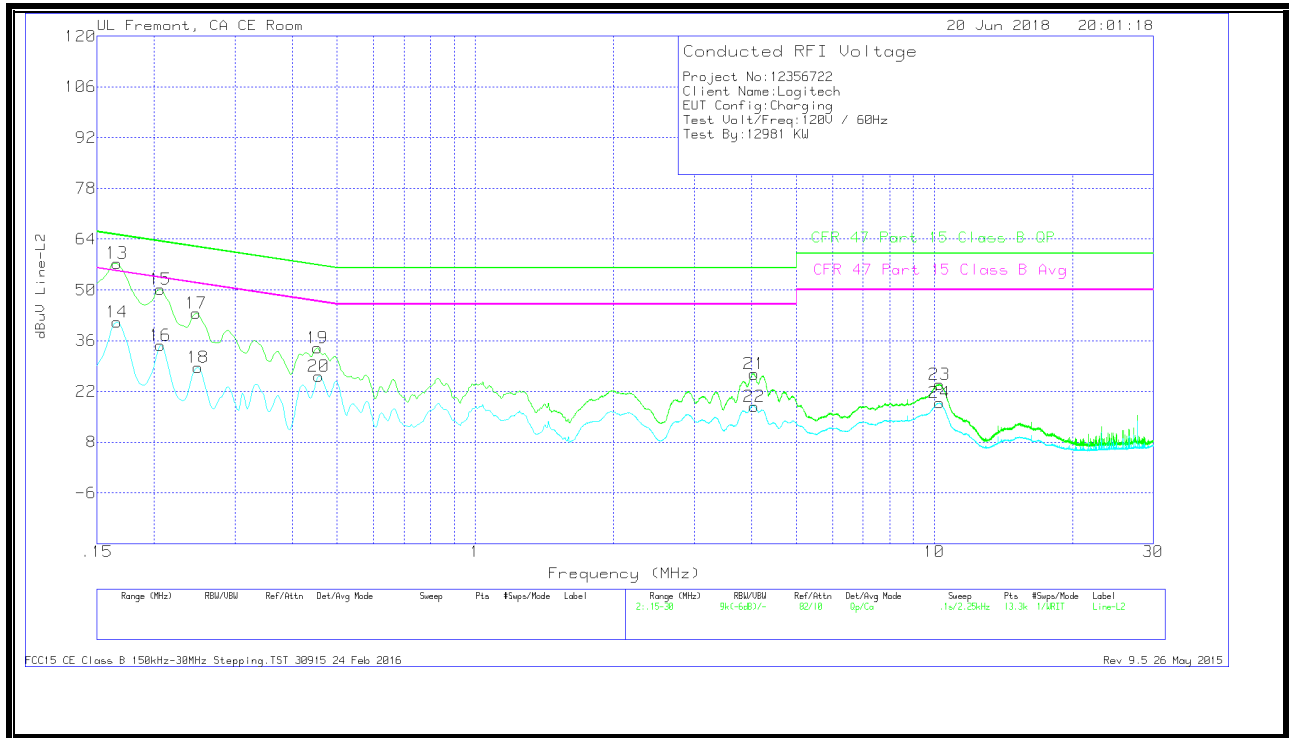
WORST EMISSIONS

Trace Markers

Range 1: Line-L1 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L1	LC Cables C1&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
1	.16125	48.39	Qp	.7	0	10.1	59.19	65.4	-6.21	-	-
2	.1635	31.7	Ca	.7	0	10.1	42.5	-	-	55.28	-12.78
3	.204	41.77	Qp	.6	0	10.1	52.47	63.45	-10.98	-	-
4	.20625	26.83	Ca	.6	0	10.1	37.53	-	-	53.35	-15.82
5	.24338	33.34	Qp	.4	0	10.1	43.84	61.98	-18.14	-	-
6	.24675	19.58	Ca	.4	0	10.1	30.08	-	-	51.87	-21.79
7	.45375	24.82	Qp	.1	0	10.1	35.02	56.81	-21.79	-	-
8	.45825	17.52	Ca	.1	0	10.1	27.72	-	-	46.72	-19
9	4.05375	16.49	Qp	.1	.1	10.1	26.79	56	-29.21	-	-
10	4.05375	7.91	Ca	.1	.1	10.1	18.21	-	-	46	-27.79
11	10.36275	11.03	Qp	.1	.2	10.2	21.53	60	-38.47	-	-
12	10.35825	5.81	Ca	.1	.2	10.2	16.31	-	-	50	-33.69

Qp - Quasi-Peak detector
Ca - CISPR average detection

LINE 2 RESULTS



WORST EMISSIONS

Trace Markers

Range 2: Line-L2 .15 - 30MHz											
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN L2	LC Cables C2&C3	Limiter (dB)	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	QP Margin (dB)	CFR 47 Part 15 Class B Avg	Av(CISPR)Margin (dB)
13	.16575	47.18	Qp	.1	0	10.1	57.38	65.17	-7.79	-	-
14	.16575	30.94	Ca	.1	0	10.1	41.14	-	-	55.17	-14.03
15	.20625	40.01	Qp	.1	0	10.1	50.21	63.35	-13.14	-	-
16	.20625	24.48	Ca	.1	0	10.1	34.68	-	-	53.35	-18.67
17	.24675	33.34	Qp	.1	0	10.1	43.54	61.87	-18.33	-	-
18	.249	18.43	Ca	.1	0	10.1	28.63	-	-	51.79	-23.16
19	.45375	23.84	Qp	.1	0	10.1	34.04	56.81	-22.77	-	-
20	.456	16.05	Ca	.1	0	10.1	26.25	-	-	46.77	-20.52
21	4.05375	16.6	Qp	0	.1	10.1	26.8	56	-29.2	-	-
22	4.05263	7.69	Ca	0	.1	10.1	17.89	-	-	46	-28.11
23	10.26825	13.49	Qp	0	.2	10.2	23.89	60	-36.11	-	-
24	10.266	8.44	Ca	0	.2	10.2	18.84	-	-	50	-31.16

Qp - Quasi-Peak detector

Ca - CISPR average detection